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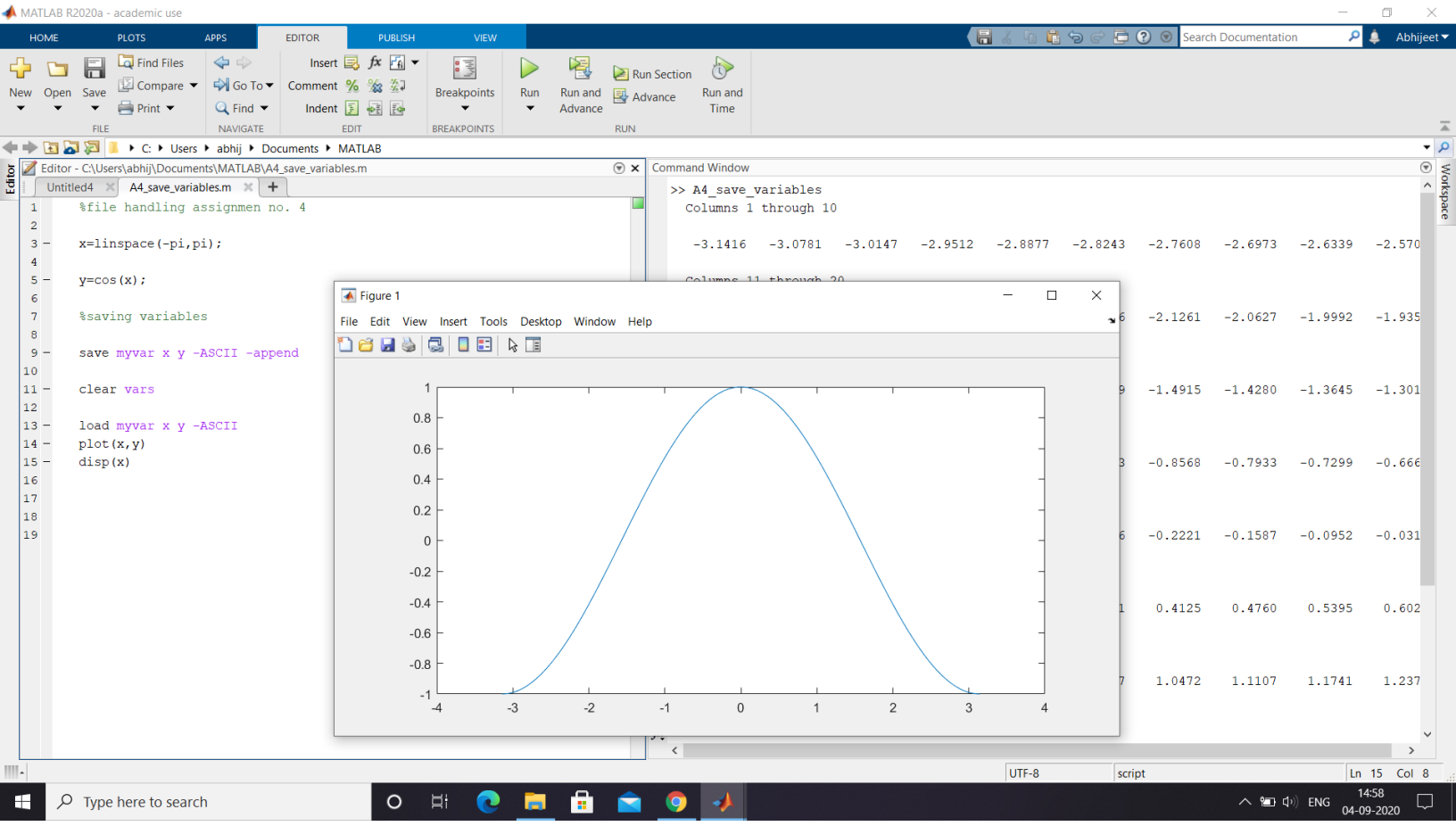
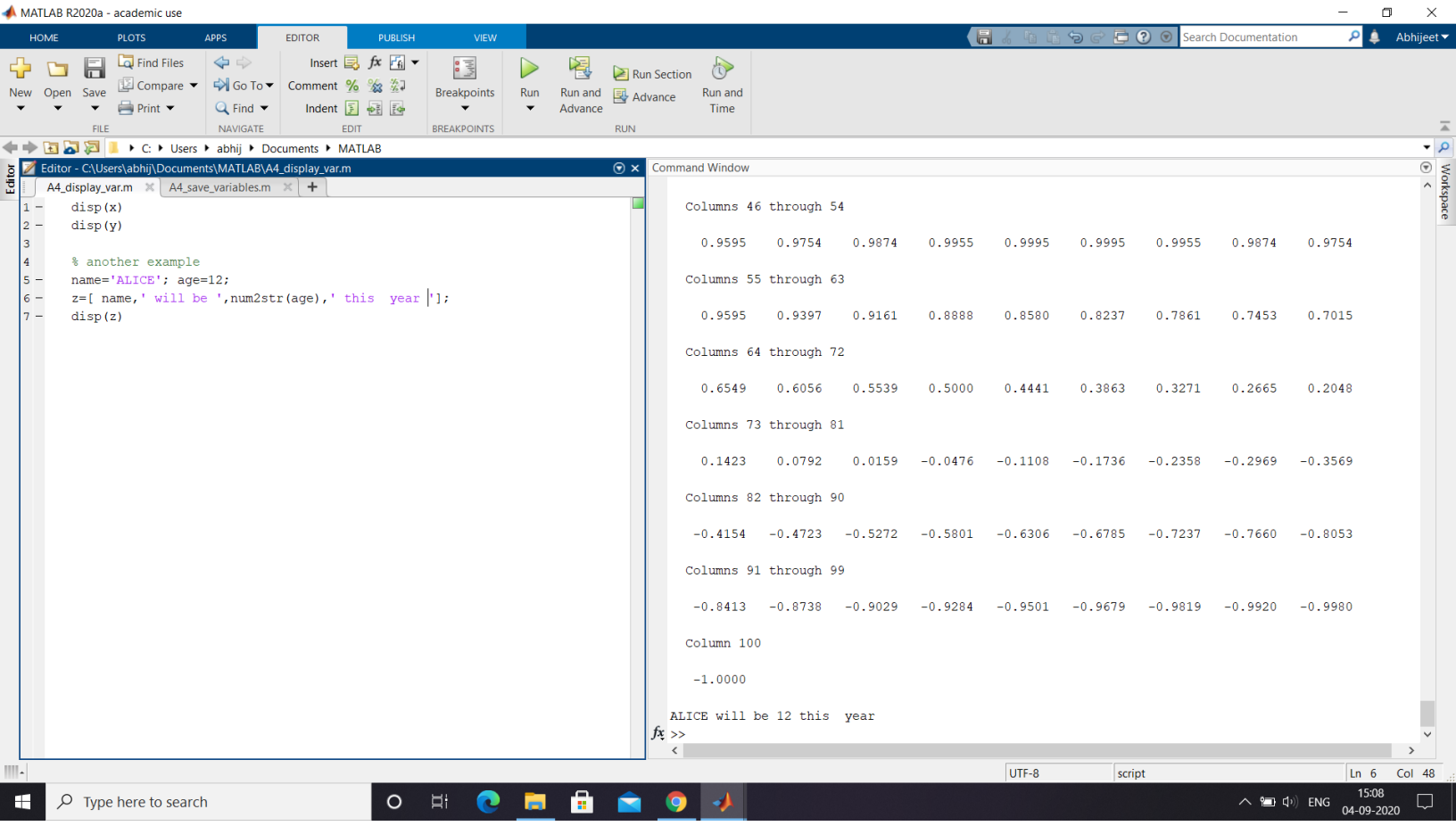
Assignment 4
CML
SY-2020-21

saving variables



displaying variables



fprintf use

Editor - C:\Users\abhij\Documents\MATLAB\A4_printf.m

A4_display_var.m | A4_save_variables.m | A4_printf.m

```
1    % printing variables
2 -  clc , clear vars
3 -  x=[1.1 2.2 3.3 4.4];
4 -  y=2*x;
5
6 -  fprintf('hello(%1.3f,%1.3f),(%1.1f,%1.0f)\n',x(1),y(1),x(3),y(3));
7
```

Command Window

```
hello(1.100,2.200),(3.3,7)
>>
```

table arrangement

C: ▸ Users ▸ abhij ▸ Documents ▸ MATLAB

Editor - C:\Users\abhij\Documents\MATLAB\A4_Table.m

A4_display_var.m | A4_save_variables.m | A4_printf.m | A4_Table.m

```
1     % table arrangement
2 -   fprintf('-------  -------\n');
3
4 -   fprintf('%6s |%8s\n','INDEX','VALUE');
5 -   fprintf('-------  -------\n');
6
7 -   for i=1:5
8 -       a=2*i+1;
9 -       fprintf('|%4.0f  |%8.1f|\n',i,a);
10 -  end
11 -  fprintf('-----------------\n')
```

Command Window

```
-------  -------
 INDEX |    VALUE
-------  -------
|    1  |      3.0|
|    2  |      5.0|
|    3  |      7.0|
|    4  |      9.0|
|    5  |     11.0|
-----------------
>>
```

Current Folder

1.file handling--open close read write
2.temp conversion example

C: ▸ Users ▸ abhij ▸ Documents ▸ MATLAB

Editor - C:\Users\abhij\Documents\MATLAB\A4_fopen_fclose.m

A4_display_var.m | A4_save_variables.m | A4_printf.m | A4_Table.m | A4_fopen_fclose.m

```
% reading writing creating files + open and close files
x=[1 2 3 4 5 ];
fid=fopen('temperature.m','w');
fprintf(fid,'\n%f',x);
fclose(fid);

% temp conversion

y=randi(1000,100,1);
func=fopen('temp_conversion.m','w');
f=9/5*y+32;
fprintf(func,'\n%f',f);
fclose(func);

func=fopen('temp_conversion.m','r');
z=fscanf(func,'%f %f %f',5);   %just reading first 5 temp values
z(:,1)
fclose(func);

```

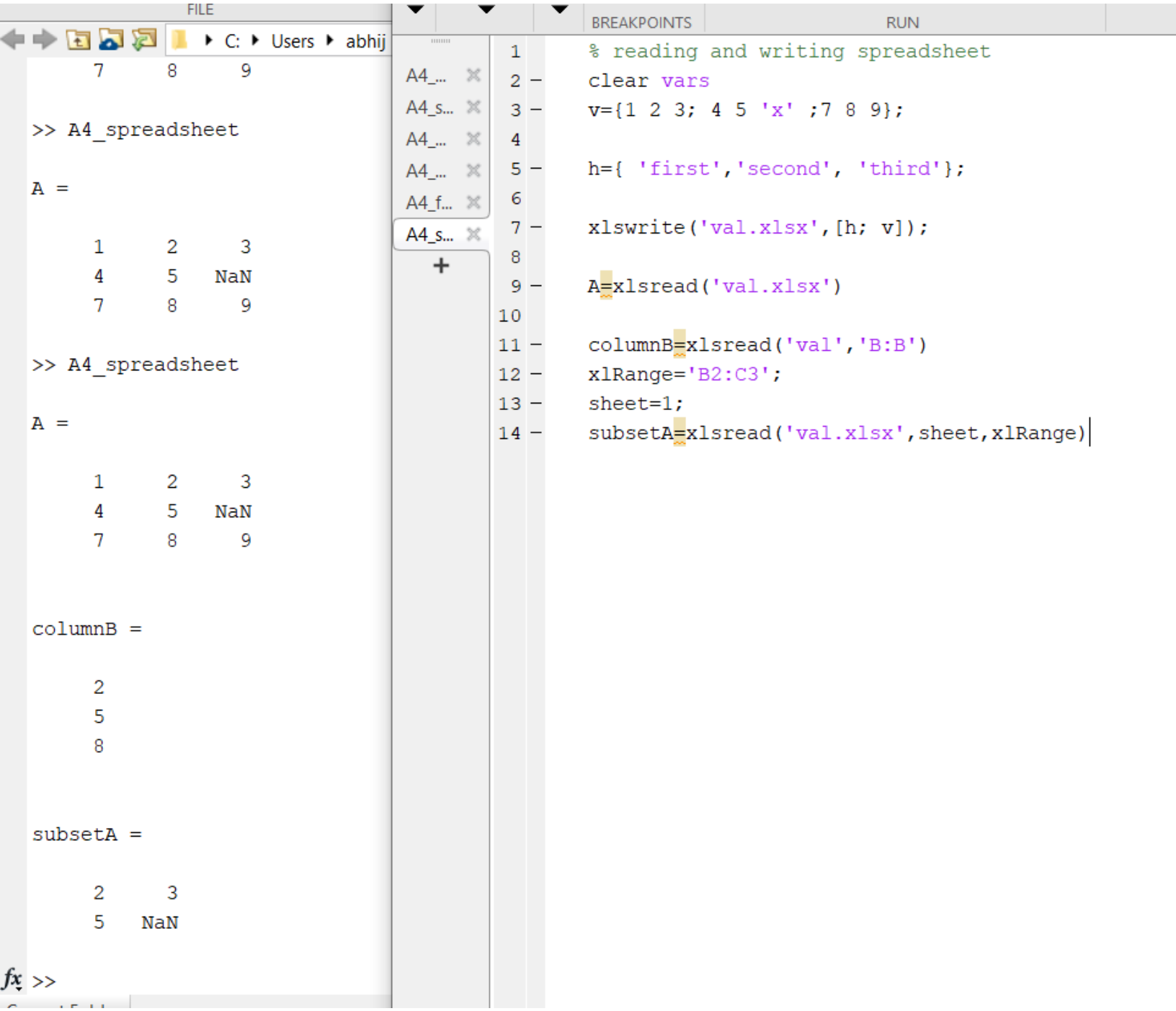
Command Window

```
1.0e+03 *

 0.8492
 0.8024
 1.7726
 1.1498
 1.2848

>>
```

spreadsheet



ex-1 str to integer data

FILE NAVIGATE EDIT BREAKPOINTS

C: ▸ Users ▸ abhij ▸ Documents ▸ MATLAB

Editor - C:\Users\abhij\Documents\MATLAB\A4_example1.m

A4_display_var.m | A4_save_variables.m | A4_printf.m | A4_Table.m | A4_fopen_fclose.m

```
% conversion of aCTUAl value(str) to data using file handling
str=' 18km  30km 40km 45km 10km ';
f=fopen('distance.dat','w');
fprintf(f,'%s',str);
fclose(f);

f=fopen('distance.dat','r');
[A,count]=fscanf(f,['%d' 'km']);
fclose(f);
```

Command Window

```
>> A4_example1
>> A4_example1
>> A

A =

    18
    30
    40
    45
    10

>>
```

ex-2 table arrangement using filehandling

A4_save_variables.m | A4_printf.m | A4_Table.m | A4_fopen_fclose.m | A4_spreadsheet.m | A4_example1.m | A4_example2.m

```
% table arrangement once again using file handling

x=0:.1:1;
A=[x; exp(x)];

f=fopen('exp.txt','w');
fprintf(f,'-------  -------\n');
fprintf(f,'%6s |%8s\n','X','exp(x)');
fprintf(f,'-------  -------\n');
fprintf(f, '%6.2f | %12.5f\n',A);
fprintf(f,'-------  -------\n');
fprintf('-----------------\n');
fclose(f);
type('exp.txt')
```

Command Window

```
>> A4_example2
-----------------

-------  -------
     X |  exp(x)
-------  -------
  0.00 |      1.00000
  0.10 |      1.10517
  0.20 |      1.22140
  0.30 |      1.34986
  0.40 |      1.49182
  0.50 |      1.64872
  0.60 |      1.82212
  0.70 |      2.01375
  0.80 |      2.22554
  0.90 |      2.45960
  1.00 |      2.71828
-------  -------
fx >>
```